



SPEC® CFP2006 Result

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Fujitsu

SPECfp®_rate2006 = 40.4

Fujitsu SPARC Enterprise M3000

SPECfp_rate_base2006 = 38.1

CPU2006 license: 19

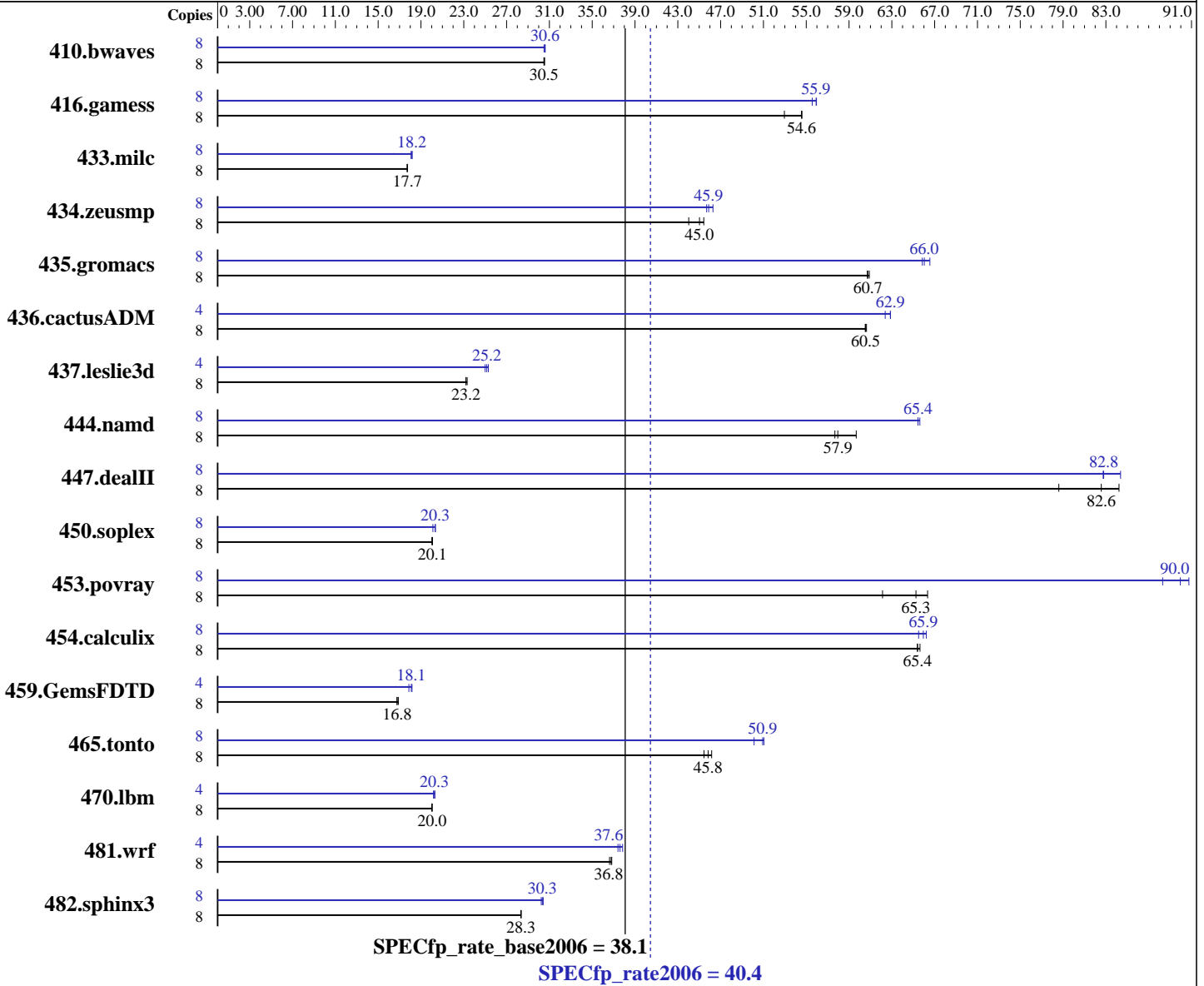
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Oct-2009

Hardware Availability: Jan-2010

Software Availability: Oct-2009



Hardware

CPU Name: SPARC64 VII
 CPU Characteristics:
 CPU MHz: 2750
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 64 KB I + 64 KB D on chip per core
 Secondary Cache: 5 MB I+D on chip per chip

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Software

Operating System: Solaris 10 10/09 with patch 119963-18
 Compiler: Sun Studio 12 Update 1
 Auto Parallel: No
 File System: ufs
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32-bit
 Other Software: Apache C++ Standard Library V4.2.1



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L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8 x 2 GB), 2-way interleaved
 Disk Subsystem: 1 x Seagate Savvio 10K.2 (146 GB 10,000 RPM SAS)
 Other Hardware: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	8	3566	30.5	3558	30.6	3564	30.5	8	3565	30.5	3554	30.6	3552	30.6
416.gamess	8	2869	54.6	2871	54.6	2958	53.0	8	2801	55.9	2799	56.0	2819	55.6
433.milc	8	4147	17.7	4142	17.7	4141	17.7	8	4064	18.1	4043	18.2	4041	18.2
434.zeusmp	8	1654	44.0	1617	45.0	1603	45.4	8	1587	45.9	1573	46.3	1593	45.7
435.gromacs	8	940	60.7	941	60.7	938	60.9	8	867	65.8	858	66.6	865	66.0
436.cactusADM	8	1580	60.5	1579	60.5	1577	60.6	4	766	62.4	760	62.9	760	62.9
437.leslie3d	8	3240	23.2	3241	23.2	3225	23.3	4	1504	25.0	1495	25.2	1486	25.3
444.namd	8	1112	57.7	1107	57.9	1075	59.7	8	980	65.4	980	65.4	978	65.6
447.dealII	8	1108	82.6	1087	84.2	1164	78.6	8	1105	82.8	1106	82.7	1085	84.4
450.soplex	8	3333	20.0	3323	20.1	3324	20.1	8	3317	20.1	3279	20.3	3282	20.3
453.povray	8	652	65.3	642	66.3	685	62.1	8	469	90.8	482	88.3	473	90.0
454.calculix	8	1009	65.4	1006	65.6	1009	65.4	8	997	66.2	1008	65.5	1001	65.9
459.GemsFDTD	8	5063	16.8	5027	16.9	5062	16.8	4	2375	17.9	2345	18.1	2336	18.2
465.tonto	8	1705	46.2	1732	45.4	1718	45.8	8	1570	50.1	1542	51.0	1546	50.9
470.lbm	8	5493	20.0	5485	20.0	5484	20.0	4	2725	20.2	2713	20.3	2707	20.3
481.wrf	8	2430	36.8	2427	36.8	2440	36.6	4	1194	37.4	1188	37.6	1181	37.8
482.sphinx3	8	5498	28.4	5501	28.3	5502	28.3	8	5156	30.2	5125	30.4	5139	30.3

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Compiler Invocation Notes

Sun Studio compiler patches are available at
http://developers.sun.com/sunstudio/downloads/patches/ss12u1_patches.jsp

The Apache C++ Standard Library V4.2.1 was installed from
<http://stcxxx.apache.org/download.html> using:
alias gmake=specmake
gmake BUILDTYPE=8d CONFIG=sunpro.config

Submit Notes

The config file option 'submit' was used. Processes were assigned to specific processors using 'pbind' commands. The list of processors to use was provided in the 'BIND' variable, to generate the pbind commands. (For details, please see the config file.)



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Operating System Notes

Shell Environments:

```
ulimit -s 131072 was used to limit the space consumed
by the stack.(making more space available for the heap)
```

System Tunables:

(/etc/system parameters)

```
tune_t_fsflushr=10
```

```
Controls how many seconds elapse between runs of the
page flush daemon, fsflush.
```

```
autoup=600
```

```
Causes pages older than the listed number of seconds to
be written by fsflush.
```

```
bufhwm=3000
```

```
Memory byte limit for caching I/O buffers.
```

```
segmap_percent=1
```

```
Set maximum percent memory for file system cache.
```

Other System Settings:

```
The webconsole service was turned off using svcadm disable webconsole.
```

Platform Notes

Memory is 2-way interleaved by filling all slots with the same capacity DIMMs.

This result is measured on a Fujitsu SPARC Enterprise M3000 Server.
Note that the Fujitsu SPARC Enterprise M3000 and Sun SPARC Enterprise M3000 are electrically equivalent.

General Notes

447.dealIII (peak): "apache_stdccx4_2_1" src.alt was used.

447.dealIII (base): "apache_stdccx4_2_1" src.alt was used.

Base Compiler Invocation

C benchmarks:

cc

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Base Compiler Invocation (Continued)

C++ benchmarks:
cc

Fortran benchmarks:
f90

Benchmarks using both Fortran and C:
cc f90

Base Optimization Flags

C benchmarks:
-fast -fma=fused -xipo=2 -xpagesize=4M -xalias_level=std
-xprefetch_auto_type=indirect_array_access -xprefetch_level=3 -l12amm

C++ benchmarks:
-xdepend -fast -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=compatible -xprefetch=latx:0.5 -library=no%Cstd
-I/export/cpu2006-v1.1/stdcxx-4.2.1/include
-I/export/cpu2006-v1.1/stdcxx-4.2.1/build/include
-L/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib
-R/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib -lstd8d

Fortran benchmarks:
-fast -fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2 -l12amm

Benchmarks using both Fortran and C:
-fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=std -xprefetch_auto_type=indirect_array_access
-xprefetch_level=3 -xprefetch_level=2 -l12amm

Base Other Flags

C benchmarks:
-xjobs=4 -V -#

C++ benchmarks:
-xjobs=4 -verbose=diags,version

Fortran benchmarks:
-xjobs=4 -V -v

Benchmarks using both Fortran and C:
-xjobs=4 -V -# -v



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Peak Compiler Invocation

C benchmarks:
cc

C++ benchmarks:
CC

Fortran benchmarks:
f90

Benchmarks using both Fortran and C:
cc f90

Peak Optimization Flags

C benchmarks:

433.milc: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch_level=2
-fsimple=1 -xprefetch_auto_type=indirect_array_access
-W2,-Ainline:rs=400 -xalias_level=std

470.lbm: -fast -fma=fused -xpagesize=4M -xipo=2 -xarch=generic
-xvector -xprefetch_level=3

482.sphinx3: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xinline= -xprefetch=no%auto
-xalias_level=strong -lfast -ll2amm

C++ benchmarks:

444.namd: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -library=stlport4
-xipo=1 -xprefetch=no%auto -xlinkopt=2 -xunroll=2

447.dealIII: -xdepend -fast -fma=fused -xpagesize=4M
-xalias_level=compatible -library=no%Cstd
-I/export/cpu2006-v1.1/stdcxx-4.2.1/include
-I/export/cpu2006-v1.1/stdcxx-4.2.1/build/include -xipo=2
-xprefetch=latx:0.5
-L/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib
-R/export/cpu2006-v1.1/stdcxx-4.2.1/build/lib -lstd8d

450.soplex: -xdepend -fast -fma=fused -xipo=2 -xpagesize=4M
-xalias_level=compatible -xprefetch=latx:0.5
-library=stlport4

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Peak Optimization Flags (Continued)

453.povray: -xdepend -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xalias_level=compatible -library=stlport4
-xipo=2 -xlinkopt=2 -xprefetch=latx:4 -xunroll=4 -lfast

Fortran benchmarks:

410.bwaves: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch_level=2

416.gamess: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -xprefetch_level=3
-xprefetch=latx:1.8

434.zeusmp: -fast -fma=fused -xpagesize=4M -xipo=2 -xprefetch_level=1
-ll2amm

437.leslie3d: -fast -fma=fused -xpagesize=4M -M /usr/lib/ld/map.bssalign
-xipo=2 -xprefetch=latx:2 -ll2amm

459.GemsFDTD: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -fma=fused
-xpagesize=4M -xipo=2 -fsimple=1

465.tonto: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast -xipo=2 -lfast

Benchmarks using both Fortran and C:

435.gromacs: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-fma=fused -xpagesize=4M -xipo=2 -xinline= -xchip=generic
-fsimple=0 -xprefetch=latx:1.2 -xunroll=5

436.cactusADM: -fast(cc) -fast(f90) -fma=fused -xipo=2 -xpagesize=4M
-xprefetch_level=2 -xalias_level=std -xprefetch_level=3
-xprefetch_auto_type=indirect_array_access -fsimple=1

454.calculix: -fast(cc) -fast(f90) -fma=fused -xpagesize=4M -xipo=2
-xprefetch_level=1 -xprefetch=latx:3.0 -xalias_level=std
-xprefetch_auto_type=indirect_array_access

481.wrf: -xprofile=collect:./feedback(pass 1)
-xprofile=use:./feedback(pass 2) -fast(cc) -fast(f90)
-fma=fused -xipo=2 -xpagesize=4M -xprefetch_level=2
-xprefetch=latx:1.8 -xalias_level=std
-xprefetch_auto_type=indirect_array_access



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Peak Other Flags

C benchmarks:

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C++ benchmarks:

-xjobs=4 -verbose=diags,version

Fortran benchmarks:

-xjobs=4 -V -v

Benchmarks using both Fortran and C:

-xjobs=4 -V -# -v

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Sun-Solaris-Studio12-12u1-and-gccfss4.2.r4.xml>

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For other inquiries, please contact webmaster@spec.org.

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